

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-3 (Canceled)

Claim 4 (Currently amended): An information-processing device that performs tunnel communications:

a tunnel communication part including a network interface for communicating with a server via a communication line of a communication network, wherein the tunnel communication part acquires an identifier and an IP address of a communication destination device from the server and then performs the tunnel communications over the communication network with encapsulated communication target data;

a judgment part for determining whether the information-processing device is to be a source of the tunnel communication or a destination of the tunnel communication in each of the tunnel communications; and

an address determination part including a computer-readable memory storing a table comprising a plurality of addresses that are dedicated for assignment only to a caller callers during initiation of the tunnel communications and ~~separately stores~~ comprising a plurality of other addresses that are dedicated for

assignment only to a callee callees during initiation of[[a]]
the tunnel communications, wherein:

the address determination part and that returns a
caller address from among the plurality of addresses to be
included in the encapsulated communication target data when the
information-processing device is identified as being the source
by the judgment part and returns a callee address selected from
among the plurality of addresses to be included in the
encapsulated communication target data when the information-
processing device is identified as being the destination by the
judgment part to be transmitted from the information processing
device during initiation of the tunnel communication, ~~wherein~~

the caller address is different than the callee
address, and ~~wherein~~

the address determination part selects the caller
address for the information-processing device when the
information-processing device is the source and selects the
callee address for the information-processing device when the
information-processing device is the destination to be included
in the communication target data based at least in part on the
determination by the judgment part.

Claims 5-7 (Canceled)

Claim 8 (Previously presented): The information-processing device for a communication source that performs tunnel communication with a communication destination device as claimed in claim 4, further comprising:

a tunnel communication identifier acceptor for accepting a tunnel communication identifier for identifying the tunnel communication; wherein

the address determination part determines at least one of the caller address and the callee address used for the communication target data, according to the determination by the judgment part and the tunnel communication identifier.

Claim 9 (Previously presented): The information-processing device as claimed in claim 8, wherein the address determination part determines a part of the at least one of the caller address and the callee address used for the communication target data according to the tunnel communication identifier, and determines another part of the at least one of the caller address and the callee address used for the communication target data according to the determination by the judgment part.

Claim 10 (Canceled)

Claim 11 (Previously presented): The information-

processing device as claimed in claim 8, wherein the tunnel communication part performs two or more tunnel communications with two or more destination communication devices, further comprising:

a detection part for detecting whether two or more addresses used for the communication target data are the same in the two or more tunnel communications; and

an address changing part for changing at least one of the addresses used for the communication target data if the detection part detects that two or more addresses are the same.

Claim 12 (Previously presented): The information-processing device as claimed in claim 8, further comprising:

an address change information receiver for receiving address change information including information related to an address change; and

an address changing part for changing at least one of the caller address and the callee address used for the communication target data, according to the address change information.

Claim 13 (Previously presented): The information-processing device as claimed in claim 8, wherein the tunnel communication part performs two or more tunnel communications with two or more devices for a communication destination or

destinations, further comprising:

a detection part for detecting whether two or more addresses that are included in the communication target data are the same in the two or more tunnel communications;

an address agreement information transmitter for transmitting address agreement information showing that the two or more addresses are the same if the detection part detects that two or more addresses are the same;

an address change information receiver for receiving address change information including information related to an address change; and

an address changing part for changing at least one of the two or more addresses included in the communication target data according to the address change information.

Claim 14 (Previously presented): The information-processing device as claimed in claim 8, further comprising an address output part for outputting the at least one of the caller address and the callee address determined by the address determination part.

Claim 15 (Previously presented): The information-processing device as claimed in claim 14, wherein the address output part transmits the at least one of the caller address and

the callee address determined by the address determination part.

Claim 16 (Previously presented): A communication system comprising:

an information-processing device as claimed in claim 8;
the communication destination device; and
a server that performs a process for establishing tunnel communication performed between the information-processing device and the communication destination device.

Claims 17-19 (Canceled)

Claim 20 (Currently amended): A server comprising:
a network interface for communicating with a plurality of information-processing devices over a communication network;
a judgment part for determining, for each tunnel communication between a first information-processing device and a second information-processing device, which of the first information-processing device and the second information-processing device is to be a source of the tunnel communication and which is a destination of the tunnel communication, wherein the judgment part designates the source of the tunnel communication to be a caller and designates the destination of the tunnel communication to be a callee;

an address determination part including a computer-readable memory storing a table comprising a plurality of addresses that are dedicated to be assigned only to a caller callers during initiation of the tunnel communications and ~~separately stores~~ comprising a plurality of other addresses that are dedicated for assignment only to a callee callees during initiation of the tunnel communications, wherein:

_____the address determination part selects, during said initiation of the tunnel communication, a caller address from among the plurality of addresses to be assigned only to the callers and a callee address from among the plurality of addresses only to be assigned to the callees for each tunnel communication, ~~wherein~~

_____both the caller address and the callee address are to be included in encapsulated communication target data in the tunnel communication performed between the first information-processing device and the second information-processing device during said initiation of the tunnel communication according to a determination by the judgment part, and ~~wherein~~

_____at least one of the callee address and the caller address can be assigned by the address determination part to a different information-processing device participating in different tunnel communications; and

an address output part operatively coupled to receive the

caller address and callee address from the address determination part, wherein the address output part outputs the caller address and the callee address determined by the address determination part.

Claims 21-23 (Canceled)

Claim 24 (Previously presented): The server as claimed in claim 20 further comprising:

a tunnel communication identifier acceptor for accepting a tunnel communication identifier for identifying the tunnel communication performed between the first information-processing device and the second information-processing device; wherein

the address determination part determines the caller address of the caller and the callee address of the callee, both addresses used for encapsulated communication target data in the tunnel communication performed between the first information-processing device and the second information-processing device according to the determination by the judgment part and according to a tunnel communication identifier accepted by the tunnel communication identifier acceptor.

Claim 25 (Previously presented): The server as claimed in claim 24, wherein the address determination part determines a

part of at least one of the caller address and the callee address used for the communication target data according to the tunnel communication identifier, and determines another part of the at least one of the caller address and the callee address used for the communication target data according to a determination by the judgment part.

Claim 26 (Canceled)

Claim 27 (Previously presented): The server as claimed in claim 20, wherein the address output part transmits both the caller address and the callee address to each of the first information-processing device and the second information-processing device.

Claim 28 (Previously presented): A communication system comprising:

a server as claimed in claim 20;

a first information-processing device that performs tunnel communication using the caller address for the communication target data; and

a second information-processing device that performs tunnel communication with the first information-processing device using the callee address for the communication target data.

Claims 29-31 (Canceled)

Claim 32 (Currently amended) : A method of facilitating a plurality of different tunnel communications between information-processing devices over a plurality of different types of communication networks, the method comprising:

accessing a table provided to at least one of the information-processing devices, the table: comprising a plurality of addresses that are dedicated for assignment only to ~~a caller~~ callers during initiation of the tunnel communications from which a caller address is to be selected and assigned to the callers in a first ~~in a first~~ of the plurality of different tunnel communications, and separately ~~stores~~ comprising a plurality of other addresses that are dedicated for assignment only to ~~a~~ callee callees during initiation of the tunnel communications from which a callee address is to be separately selected and assigned to the callees in the first ~~in the first~~ of the plurality of different tunnel communications, wherein at least one of the caller address and the callee address is to be assigned to a different information-processing device involved in ~~a second~~ another of the plurality of different tunnel communications;

determining which of a first information-processing device and a second information-processing device performing a first tunnel communication is a source of each tunnel communication

that is to be designated as the caller and which is a destination of each tunnel communication that is to be designated as the callee;

selecting, from said table and based on a result of said determining, at least one of the caller address and the callee address to be included in encapsulated communication target data to be transmitted during initiation of the first tunnel communication performed between the first information-processing device and the second information-processing device;

encapsulating the at least one of the caller address and the callee address with another network address into the encapsulated communication target data, wherein the at least one of the caller address and the callee address and the another network address correspond to the plurality of different types of communication networks; and

transmitting the encapsulated communication target data during said initiation of the first tunnel communication over the plurality of different types of communication networks to at least one of the caller address and the callee address included in the encapsulated communication target data.

Claims 33-35 (Canceled)

Claim 36 (Previously presented): The method of

determining an address as claimed in claim 32, wherein the at least one of the caller address and the callee address is selected to be included in the encapsulated communication target data as a function of a tunnel communication identifier in combination with said relationship and the result of said determining.

Claim 37 (Previously presented): The method of determining an address as claimed in claim 36, further comprising accepting the tunnel communication identifier from a portable computer-readable medium, wherein the step of determining an address determines the address using the tunnel communication identifier accepted in the step of accepting a tunnel communication identifier.

Claim 38-53 (Canceled)

Claim 54 (Previously presented): The information-processing device of claim 4, wherein the relationship includes a function that determines at least one of the caller address and the callee address as a function of a variable established by the signal from the judgment part.

Claims 55-57 (Canceled)

Claim 58 (Previously presented): The method of claim 36, wherein the function of the tunnel communication identifier includes a comparison of a least significant digit of a communication destination device identifier to a least significant digit of a communication source device identifier.

Claim 59 (Currently amended): An information-processing device that performs tunnel communications, the information-processing device comprising:

a tunnel communication part including a network interface for communicating with a server via a communication line of a communication network, wherein the tunnel communication part acquires an identifier and an IP address of a communication destination device from the server and then performs the tunnel communications over the communication network with encapsulated communication target data;

a judgment part that:

makes a first determination that the information-processing device is to be a source of a first tunnel communication and transmits a source signal in response to making said first determination, and

makes a second determination that the information-processing device is to be a destination of a second tunnel communication, that is separate from the first tunnel

communication, and transmits a destination signal in response to making said second determination; and

an address determination part that comprises a computer-readable memory storing a table: comprising a plurality of addresses that are dedicated for assignment only to the information-processing device based on a status of the information-processing device as a caller during initiation of the first tunnel communication, and separately ~~stores~~ comprising a plurality of other addresses that are dedicated for assignment only to the information-processing device based on a status of the information-processing device as a callee during initiation of the second tunnel communication, wherein:

the address determination part returns a caller address selected from among the plurality of addresses dedicated for assignment only to the caller and includes the caller address in the encapsulated communication target data during said initiation of the first tunnel communication based on the source signal transmitted by the judgment part, and returns a callee address selected from among the plurality of other addresses dedicated for assignment only to the callee and includes the callee address in the encapsulated communication target data during said initiation of the second tunnel communication based on the destination signal transmitted by the judgment part.

Claim 60 (Previously presented): The information-processing device of claim 4, wherein said initiation of the tunnel communication comprises establishing a tunnel to be utilized for the tunnel communication involving the information-processing device.

Claim 61 (Previously presented): The method of claim 32, wherein said initiation of the tunnel communication comprises establishing a tunnel to be utilized for the tunnel communication involving the first and second information-processing devices.